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Search Results -

Term	Documents
NEGATIVE	1094951
NEGATIVES	16974
GEOTAXIS	20
GEOTAXI	0
((NEGATIVE ADJ GEOTAXIS) AND 3).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	1
(L3 AND (NEGATIVE ADJ GEOTAXIS)).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	1

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DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=AND			
L7	L3 and (negative adj geotaxis)	1	L7
L6	L3 and ((parent and progenies) and (grand adj progenies))	0	L6
L5	L3 and (F1 and F2)	1	L5
L4	L3 and (inheritable or inheritably or epigenetic or epigenetically)	0	L4
	L2 and (psychostimulant or (neuroactive adj drug) or cocaine or nicotine or		

L3	strychnine or pentylenetertrazol or tetraethylammonium or (lithium adj carbonate))	40	L3
L2	(locomotor or behavior or behavioral) same (flies or fly or Drosophila)	1244	L2
L1	Sharma-Abhay.in.	7	L1

END OF SEARCH HISTORY

PALM INTRANET

Day : Thursday
Date: 3/24/2005

Time: 09:47:29

Inventor Name Search

Enter the **first few letters** of the Inventor's Last Name.
Additionally, enter the **first few letters** of the Inventor's First name.

Last Name	**First Name**	
Sharma	Abhay	Search

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Q2, 2005

      Set  Items  Description
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Cost is in DialUnits
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B 155, 5, 73
       24mar05 10:22:54 User259876 Session D729.1
            $0.79    0.227 DialUnits File1
     $0.79  Estimated cost File1
     $0.10  INTERNET
     $0.89  Estimated cost this search
     $0.89  Estimated total session cost   0.227 DialUnits

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S (LOCOMOTOR OR BEHAVIOR OR BEHAVIORAL) (S) (FLIES OR FLY OR DROSOPHILA)
          53462  LOCOMOTOR
        1768438  BEHAVIOR
         427836  BEHAVIORAL
          36239  FLIES
          48933  FLY
         155521  DROSOPHILA
      S1    8038  (LOCOMOTOR OR BEHAVIOR OR BEHAVIORAL) (S) (FLIES OR FLY
                  OR DROSOPHILA)
?

S S1 AND (PSYCHOSTIMULANT? OR COCAINE OR NICOTINE OR STRYCHNINE OR PENTYLENETETRAZOL
E) OR (NEUROACTIVE (W) DRUG?))
Processing
           8038  S1
           7310  PSYCHOSTIMULANT?
          74837  COCAINE
          61627  NICOTINE
          14788  STRYCHNINE
           8177  PENTYLENETETRAZOLE
          17706  TETRAETHYLAMMONIUM
          85144  LITHIUM
          62928  CARBONATE
          10327  LITHIUM(W)CARBONATE
           5772  NEUROACTIVE
        8835340  DRUG?
            351  NEUROACTIVE(W)DRUG?
      S2     81  S1 AND (PSYCHOSTIMULANT? OR COCAINE OR NICOTINE OR
                  STRYCHNINE OR PENTYLENETETRAZOLE OR TETRAETHYLAMMONIUM OR
                  (LITHIUM (W) CARBONATE) OR (NEUROACTIVE (W) DRUG?))
?

S S2 AND (INHERITABLE OR INHERITABLY OR EPIGENETIC OR EPIGENETICALLY)
             81  S2
           1412  INHERITABLE
             11  INHERITABLY
          14039  EPIGENETIC
            805  EPIGENETICALLY
      S3     0  S2 AND (INHERITABLE OR INHERITABLY OR EPIGENETIC OR
                  EPIGENETICALLY)
?

S S2 AND (F1 AND F2)
             81  S2
          66228  F1
          51659  F2
      S4     0  S2 AND (F1 AND F2)
?

S S2 AND (PROGENIES OR (GRAND (W) PROGENIES))
             81  S2
           7724  PROGENIES
          16902  GRAND
           7724  PROGENIES
              0  GRAND(W)PROGENIES
      S5     0  S2 AND (PROGENIES OR (GRAND (W) PROGENIES))
?
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S S2 AND (INHERITABLE (W) BEHAVIORAL (W) CHANGE)
             81  S2
           1412  INHERITABLE
         427836  BEHAVIORAL
        1190841  CHANGE
              0  INHERITABLE(W)BEHAVIORAL(W)CHANGE
      S6      0  S2 AND (INHERITABLE (W) BEHAVIORAL (W) CHANGE)
?

S S2 AND (LAMARCKISM OR LAMARCKIAN)
             81  S2
             70  LAMARCKISM
            161  LAMARCKIAN
      S7      0  S2 AND (LAMARCKISM OR LAMARCKIAN)
?

S S2 AND (NEGATIVE (W) GEOTAXIS)
             81  S2
        1519770  NEGATIVE
            815  GEOTAXIS
            605  NEGATIVE(W)GEOTAXIS
      S8      2  S2 AND (NEGATIVE (W) GEOTAXIS)
?

RD
...completed examining records
      S9      1  RD (unique items)
?

T S9/3,K/ALL

  9/3,K/1     (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2005 The Dialog Corp. All rts. reserv.

12776794   PMID: 10704411
  Dopamine modulates acute responses to cocaine , nicotine□and ethanol□
 in Drosophila.
  Bainton R J; Tsai L T; Singh C M; Moore M S; Neckameyer W S; Heberlein U
  Department of Anesthesia, University of California San Francisco,
California 94143-0452, USA.
  Current biology - CB (ENGLAND) Feb 24 2000, 10 (4) p187-94, ISSN
0960-9822 Journal Code: 9107782
  Contract/Grant No.: AA10035; AA; NIAAA; GM08440; GM; NIGMS
  Publishing Model Print
  Document type: Journal Article
  Languages: ENGLISH
  Main Citation Owner: NLM
  Record type: MEDLINE; Completed

  Dopamine modulates acute responses to cocaine , nicotine□and ethanol□
 in Drosophila.
  ... mechanisms by which dopamine regulates acute drug responses and
addiction remain unknown. RESULTS: We present evidence that dopamine plays
a role in the responses of Drosophila to cocaine ,□nicotine□or
ethanol. We used a startle-induced negative geotaxis assay and a
  locomotor tracking system to measure the effect of psychostimulants on
  fly behavior . Using these assays, we show that acute responses to
  cocaine and nicotine are blunted by pharmacologically induced
reductions in dopamine levels. Cocaine and nicotine showed a high
```

degree of synergy in their effects, which is consistent with an action through convergent pathways. In addition, we found that dopamine is involved in the acute **locomotor** -activating effect, but not the sedating effect, of ethanol. CONCLUSIONS: We show that in **Drosophila** , as in mammals, dopaminergic pathways play a role in modulating specific **behavioral** responses to **cocaine** ,□nicotine□or ethanol. We therefore suggest that **Drosophila** can be used as a genetically tractable model system in which to study the mechanisms underlying **behavioral** responses to multiple drugs of abuse.
Descriptors: ***Cocaine** --metabolism--ME; *Dopamine--metabolism--ME; *Ethanol--metabolism--ME; **Nicotine** --metabolism--ME
Chemical Name: **Cocaine** ; Dopamine; **Nicotine** ; Ethanol
?

Set	Items	Description
S1	8038	(LOCOMOTOR OR BEHAVIOR OR BEHAVIORAL) (S) (FLIES OR FLY OR DROSOPHILA)
S2	81	S1 AND (PSYCHOSTIMULANT? OR COCAINE OR NICOTINE OR STRYCHNINE OR PENTYLENETETRAZOLE OR TETRAETHYLAMMONIUM OR (LITHIUM (-W) CARBONATE) OR (NEUROACTIVE (W) DRUG?))
S3	0	S2 AND (INHERITABLE OR INHERITABLY OR EPIGENETIC OR EPIGENETICALLY)
S4	0	S2 AND (F1 AND F2)
S5	0	S2 AND (PROGENIES OR (GRAND (W) PROGENIES))
S6	0	S2 AND (INHERITABLE (W) BEHAVIORAL (W) CHANGE)
S7	0	S2 AND (LAMARCKISM OR LAMARCKIAN)
S8	2	S2 AND (NEGATIVE (W) GEOTAXIS)
S9	1	RD (unique items)

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RD
...completed examining records
     S10       1  RD (unique items)
?

RD S2
...examined 50 records  (50)
...completed examining records
     S11      46  RD S2 (unique items)
?

S S2 NOT PY>2003
              81  S2
         1699065  PY>2003
     S12      63  S2 NOT PY>2003
?

RD
...examined 50 records  (50)
...completed examining records
     S13      38  RD (unique items)
?

T S13/3,K/ALL
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13/3,K/1 (Item 1 from file: 155)

DIALOG(R)File 155:MEDLINE(R)
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14613412 PMID: 12486703
Invertebrate models of drug abuse.
Wolf Fred W; Heberlein Ulrike
Department of Anatomy and Program in Neuroscience, University of California San Francisco, 513 Parnassus Avenue, San Francisco, California 94143-0452, USA. fwolf@itsa.ucsf.edu
Journal of neurobiology (United States) Jan 2003, 54 (1) p161-78, ISSN 0022-3034 Journal Code: 0213640
Publishing Model Print
Document type: Journal Article; Review
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

...drugs. Yet, our understanding of how the primary effects of drugs lead to addiction remains incomplete. Recently, researchers have turned to the invertebrate model systems **Drosophila** melanogaster and Caenorhabditis elegans to dissect the mechanisms by which abused drugs modulate **behavior** . Due to their sophisticated genetics, relatively simple anatomy, and their remarkable molecular similarity to mammals, these invertebrate models should provide useful insights into the mechanisms of drug action. Here we review recent **behavioral** and genetic studies in **flies** and worms on the effects of ethanol, **cocaine** , and **nicotine** , three of the most widely abused drugs in the world. Copyright 2003 Wiley Periodicals, Inc.
; Alcoholic Intoxication--psychology--PX; Animals; Behavior, Animal--drug effects--DE; Caenorhabditis elegans--drug effects--DE; **Cocaine** --adverse effects--AE; Disease Models, Animal; Dopamine--metabolism--ME; Drosophila melanogaster--drug effects--DE; Drug Tolerance; Ethanol--adverse effects --AE; Learning--drug effects--DE; Memory--drug effects--DE; **Nicotine** --adverse effects--AE; Substance-Related Disorders--physiopathology--PP
Chemical Name: **Cocaine** ; Dopamine; **Nicotine** ; Ethanol

13/3,K/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14579359 PMID: 12622406
A drosophila model for attention deficit hyperactivity disorder (ADHD): No evidence of association with PRKG1 gene.
De Luca Vincenzo; Muglia Pierandrea; Jain Umesh; Basile Vincenzo S; Sokolowski Marla B; Kennedy James L
Neurogenetics Section, Clarke Site, Centre for Addiction and Mental Health, Department of Psychiatry, University of Toronto, Toronto, Ontario, Canada.
Neuromolecular medicine (United States) 2002, 2 (3) p281-7, ISSN 1535-1084 Journal Code: 101135365
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

... children and follow up studies have indicated that 22-33% of patients continue to suffer from ADHD during late adolescence and adulthood. The action of **psychostimulant** drugs may be determined by additional mechanisms beyond the dopamine transporter and receptors. We are exploring new methodology for discovering these mechanisms. For example, in **Drosophila** , such an additional determinant of **psychostimulant** action could be protein kinase G (PKG) that affects food-search **behavior** . Here

we initiated studies with the human homologue of PKG, the PRKG1 gene. The aim of this study was to investigate for the presence of...

13/3,K/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14537540 PMID: 12490253
Drugs, flies, and videotape: the effects of ethanol and cocaine **on Drosophila locomotion.**
Rothenfluh Adrian; Heberlein Ulrike
Department of Anatomy, University of California at San Francisco, 513 Parnassus Avenue, 94143-0452, USA. adrianr@itsa.ucsf.edu
Current opinion in neurobiology (England) Dec 2002, 12 (6) p639-45, ISSN 0959-4388 Journal Code: 9111376
Publishing Model Print
Document type: Journal Article; Review; Review, Tutorial
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Drugs, flies, and videotape: the effects of ethanol and cocaine **on Drosophila locomotion.**
Drosophila melanogaster has been introduced recently as a model organism in which to study the mechanisms by which drugs of abuse change **behavior** and by which the nervous system changes upon repeated drug exposure. Surprising similarities between **flies** and mammals have begun to emerge at the **behavioral** , neurochemical and molecular levels.
Descriptors: ***Cocaine** --pharmacology--PD; *Ethanol--pharmacology--PD; *Locomotion--drug effects--DE
Chemical Name: **Cocaine** ; Dopamine; Cyclic AMP; Ethanol

13/3,K/4 (Item 4 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

14277067 PMID: 12084940
Cocaine **sensitization and reward are under the influence of circadian genes and rhythm.**
Abarca Carolina; Albrecht Urs; Spanagel Rainer
Department of Psychopharmacology, Central Institute of Mental Health, University of Heidelberg, J5, 68159 Mannheim, Germany. abarca@zi-mannheim.de
Proceedings of the National Academy of Sciences of the United States of America (United States) Jun 25 2002, 99 (13) p9026-30, ISSN 0027-8424 Journal Code: 7505876
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Cocaine **sensitization and reward are under the influence of circadian genes and rhythm.**
Investigations using the fruit **fly** **Drosophila** melanogaster have shown that the circadian clock gene period (Per) can influence **behavioral** responses to **cocaine** . Here we show that the mouse homologues of the **Drosophila** Per gene, mPer1 and mPer2, modulate **cocaine** sensitization

and reward, two phenomena extensively studied in humans and animals because of their importance for drug abuse. In response to an acute **cocaine** injection mPer1 and mPer2 mutant mice as well as wild-type mice exhibited an approximately 5-fold increase in activity compared with saline control levels, showing that there is no initial difference in sensitivity to acute **cocaine** administration in Per mutants. After repeated **cocaine** injections wild-type mice exhibited a sensitized **behavioral** response that was absent in mPer1 knockout mice. In contrast, mPer2 mutant mice exhibited a hypersensitized response to **cocaine** . Conditioned place preference experiments revealed similar **behavioral** reactions: mPer1 knockout mice showed a complete lack of **cocaine** reward whereas mPer2 mutants showed a strong **cocaine** -induced place preference. In another set of experiments, we tested C57/BL6J mice at different Zeitgeber times and found that **cocaine** -induced **behavioral** sensitization and place preference are under the control of the circadian clock. In conclusion, we demonstrate that processes involved in **cocaine** addiction depend on the circadian rhythm and are modulated in an opposing manner by mPer1 and mPer2 genes.

Descriptors: *Circadian Rhythm--genetics--GE; * **Cocaine** --pharmacology --PD

Chemical Name: Nuclear Proteins; PER1 protein, mammalian; PER2 protein, mammalian; **Cocaine**

13/3,K/5 (Item 5 from file: 155)

14219157 PMID: 12020859

Reduced anxiety-- and depression-like behaviors in Emx1 homozygous mutant mice.

Cao Bo-Jin; Li Yuqing

Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, 405 N. Mathews Avenue, Urbana, IL 61801, USA.

Brain research (Netherlands) May 24 2002, 937 (1-2) p32-40, ISSN 0006-8993 Journal Code: 0045503

Contract/Grant No.: AG17291; AG; NIA

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

Emx1 is a mammalian homolog of the **Drosophila** gap gene empty spiracles (ems). Although it has been implicated in the formation of the mouse forebrain, the neuronal functions of this homeobox gene remain unknown. The restricted expression of Emx1 to the cerebral cortex and hippocampus suggests that it might play a role in emotional and other **behavioral** processes. The present study examined the phenotypes of Emx1-deficient mice generated by gene targeting technology in a battery of **behavioral** tests with a fixed inter-trial interval of 7 days. Compared with their wild-type littermates, the Emx1 homozygous mutant mice displayed markedly lowered anxiety...

... immobility in the forced swimming paradigm. There was a trend toward reduction in prepulse inhibition of acoustic startle in the homozygotes. No significant alterations in **locomotor** activity and susceptibility to pentylenetetrazol-induced seizure were found. This **behavioral** profile indicates an involvement of Emx1 in the emotional responses of mice.

...; GE; Homozygote; Ion Channel Gating; Maze Learning--physiology--PH;

Mice; Mice, Inbred C57BL; Mice, Knockout; Nerve Tissue Proteins--deficiency --DF; Nerve Tissue Proteins--genetics--GE; **Pentylenetetrazole** --toxicity --TO; Seizures--chemically induced--CI; Seizures--genetics--GE; Seizures --physiopathology--PP; Startle Reaction--genetics--GE; Startle Reaction --physiology--PH; Swimming
Chemical Name: Convulsants; Homeodomain Proteins; Nerve Tissue Proteins; emx homeoprotein, vertebrate; **Pentylenetetrazole**

13/3,K/6 (Item 6 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

13633457 PMID: 11259635
Sensitized increase of period gene expression in the mouse caudate/putamen caused by repeated injection of methamphetamine.
Nikaido T; Akiyama M; Moriya T; Shibata S
Department of Pharmacology and Brain Science, School of Human Sciences, Waseda University, Tokorozawa, Saitama, Japan.
Molecular pharmacology (United States) Apr 2001, 59 (4) p894-900, ISSN 0026-895X Journal Code: 0035623
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Methamphetamine (MAP) causes the sensitization phenomena not only in MAP-induced **locomotor** activity, dopamine release, and Fos expression, but also in MAP-induced circadian rhythm. **Cocaine** -induced sensitization is reportedly impaired in **Drosophila** melanogaster mutant for the Period (Per) gene. Thus, sensitization may be related to induction of the Per gene. A rapid induction of mPer1 and/or mPer2 in the suprachiasmatic nucleus after light exposure is believed to be necessary for light-induced **behavioral** phase shifting. Although the caudate/putamen (CPu) expresses mPer1 and/or mPer2 mRNA, the function of these genes in this nucleus has not yet been...

...and D1 receptors is necessary to produce MAP-induced mPer1 expression in the CPu. Repeated injection of MAP caused a sensitization in not only the **locomotor** activity but also mPer1 expression in the CPu without affecting the level of mPer2, mPer3, or mTim mRNA. Thus, these results suggest that MAP-induced...

13/3,K/7 (Item 7 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

13572155 PMID: 11139509
Quantitative trait loci for the monoamine-related traits heart rate and headless behavior **in** Drosophila□ melanogaster.□
Ashton K; Wagoner A P; Carrillo R; Gibson G
Department of Genetics, North Carolina State University, Raleigh, North Carolina 27695-7614, USA.
Genetics (United States) Jan 2001, 157 (1) p283-94, ISSN 0016-6731 Journal Code: 0374636
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH

Main Citation Owner: NLM
Record type: MEDLINE; Completed

Quantitative trait loci for the monoamine-related traits heart rate and headless behavior in Drosophila melanogaster.

Drosophila melanogaster appears to be well suited as a model organism for quantitative pharmacogenetic analysis. A genome-wide deficiency screen for haploinsufficient effects on prepupal heart...

... exhibited spontaneously upon decapitation, namely, grooming, grasping, righting, and quivering. Overall activity levels are increased by application of particular concentrations of the drugs octopamine and **nicotine** , but due to high environmental variance both within and among replicate vials, the significance of genetic variation among wild-type lines for response to the drugs is difficult to establish. An interval mapping design was also used to map two or three QTL for each **behavioral** trait in a set of recombinant inbred lines derived from the laboratory stocks Oregon-R and 2b.

; Animals; Behavior, Animal--drug effects--DE; Biogenic Monoamines --physiology--PH; Drosophila melanogaster--drug effects--DE; Genes, Insect; Head; Heart Rate--genetics--GE; Neurotransmitters--physiology--PH; **Nicotine** --pharmacology--PD; Octopamine--pharmacology--PD; Phenotype; Quantitative Trait, Heritable; Variation (Genetics)

Chemical Name: Biogenic Monoamines; Neurotransmitters; Octopamine; **Nicotine**

13/3,K/8 (Item 8 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

13562255 PMID: 11125028
The antidepressant-sensitive dopamine transporter in Drosophila melanogaster: a primordial carrier for catecholamines.

Porzgen P; Park S K; Hirsh J; Sonders M S; Amara S G
Vollum Institute, Oregon Health Sciences University, Portland, Oregon 97201, USA. poerzgen@ohsu.edu

Molecular pharmacology (UNITED STATES) Jan 2001, 59 (1) p83-95, ISSN 0026-895X Journal Code: 0035623
Contract/Grant No.: DA07595; DA; NIDA; DA12408; DA; NIDA; GM/DA27318; GM; NIGMS
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Extracellular concentrations of monoamine neurotransmitters are regulated by a family of high-affinity transporters that are the molecular targets for such psychoactive drugs as **cocaine** , amphetamines, and therapeutic antidepressants. In **Drosophila** melanogaster, **cocaine** -induced behaviors show striking similarities to those induced in vertebrate animal models. Although a **cocaine** -sensitive serotonin carrier exists in **flies** , there has been no pharmacological or molecular evidence to support the presence of distinct carrier subtypes for other bioactive monoamines. Here we report the cloning and characterization of a **cocaine** -sensitive **fly** dopamine transporter (dDAT). In situ hybridization demonstrates that dDAT mRNA expression is restricted to dopaminergic cells in the **fly** nervous system. The substrate selectivity of dDAT parallels that of the mammalian DATs in that dopamine and tyramine are the preferred substrates, whereas octopamine

is...

...less efficiently, and serotonin not at all. In contrast, dDAT inhibitors display a rank order of potency most closely resembling that of mammalian norepinephrine transporters. **Cocaine** has a moderately high affinity to the cloned dDAT (IC50 = 2.6 microM). Voltage-clamp analysis of dDAT expressed in Xenopus laevis oocytes indicates that...

... like inhibitor pharmacology within a single carrier, and results from phylogenetic analyses, suggest that dDAT represents an ancestral catecholamine transporter gene. The identification of a **cocaine** -sensitive target linked to dopaminergic neurotransmission in D. melanogaster will serve as a basis for further dissection of the genetic components of **psychostimulant** -mediated **behavior** .

; Amino Acid Sequence; Animals; Biological Transport; Carrier Proteins --antagonists and inhibitors--AI; Carrier Proteins--drug effects--DE; Carrier Proteins--genetics--GE; **Cocaine** --pharmacology--PD; DNA, Complementary--isolation and purification--IP; Drosophila melanogaster --drug effects--DE; Drosophila melanogaster--genetics--GE; Drosophila melanogaster--metabolism--ME; Electric Conductivity; Electrophysiology; Gene...

...Chemical Name: Carrier Proteins; Catecholamines; DNA, Complementary; Membrane Glycoproteins; Membrane Transport Proteins; Nerve Tissue Proteins; Neurotransmitters; Symporters; catecholamine transport protein; dopamine-binding protein; Octopamine; norepinephrine transporter protein; **Cocaine** ; Receptor Protein-Tyrosine Kinases

13/3,K/9 (Item 9 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

13502980 PMID: 10469593

The trace amine tyramine is essential for sensitization to cocaine **in Drosophila.**

McClung C; Hirsh J

Department of Biology, University of Virginia, Charlottesville, Virginia 22903, USA.

Current biology - CB (ENGLAND) Aug 26 1999, 9 (16) p853-60, ISSN 0960-9822 Journal Code: 9107782

Contract/Grant No.: 1F31DA05897-01; DA; NIDA; GM/DA 27318; GM; NIGMS

Publishing Model Print

Document type: Journal Article

Languages: ENGLISH

Main Citation Owner: NLM

Record type: MEDLINE; Completed

The trace amine tyramine is essential for sensitization to cocaine **in Drosophila.**

BACKGROUND: Sensitization to **psychostimulant** drugs of abuse is thought to be an important aspect of human addiction, yet how it develops is still unclear. The development of sensitization to **cocaine** in the fruit **fly** **Drosophila** melanogaster is strikingly similar to that observed in vertebrates. By taking advantage of the powerful genetic approaches that are possible in **Drosophila** , we are able to identify and characterize mutants that fail to develop sensitization. RESULTS: We found that the **Drosophila** mutant inactive (iav) failed to become sensitized to **cocaine** . Mutant **flies** had reduced amounts of the trace amine tyramine in the brain because of reduced activity of the enzyme tyrosine decarboxylase (TDC), which converts tyrosine to tyramine. Furthermore, **cocaine** exposure

induced TDC enzyme activity in a time-dependent manner that paralleled the development of **behavioral** sensitization. The sensitization failure of iav **flies** could be rescued by feeding the **flies** with tyramine; other biogenic amines or amine precursors did not have the same effect. CONCLUSIONS: These results indicate an essential role for tyramine in **cocaine** sensitization in **Drosophila** .

Descriptors: ***Cocaine** --pharmacology--PD; *Dopamine Uptake Inhibitors --pharmacology--PD; *Drosophila melanogaster--drug effects--DE; *Tyramine --physiology--PH; *Tyrosine Decarboxylase--metabolism--ME

Chemical Name: Dopamine Uptake Inhibitors; Octopamine; **Cocaine** ; Tyramine; Tyrosine; Mixed Function Oxygenases; tyramine beta-hydroxylase; Tyrosine Decarboxylase

13/3,K/10 (Item 10 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

12938973 PMID: 10781603
Type II cAMP-dependent protein kinase-deficient Drosophila are viable but show developmental, circadian, and drug response phenotypes.
Park S K; Sedore S A; Cronmiller C; Hirsh J
Department of Biology, University of Virginia, Charlottesville, Virginia 22903, USA.
Journal of biological chemistry (UNITED STATES) Jul 7 2000, 275 (27) p20588-96, ISSN 0021-9258 Journal Code: 2985121R
Contract/Grant No.: DA 27318; DA; NIDA; GM 27318; GM; NIGMS
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

We identified a unique type II cAMP-dependent protein kinase regulatory subunit (PKA-RII) gene in **Drosophila** melanogaster and a severely hypomorphic if not null mutation, pka-RII(EP(2)2162). Extracts from pka-RII(EP(2)2162) **flies** selectively lack RII-specific autophosphorylation activity and show significantly reduced cAMP binding activity, attributable to the loss of functional PKA-RII. pka-RII(EP(2...
... and approximately 40% of normal cAMP-inducible PKA activity. pka-RII(EP(2)2162) is fully viable but displays abnormalities of ovarian development and multiple **behavioral** phenotypes including arrhythmic circadian **locomotor** activity, decreased sensitivity to ethanol and **cocaine** , and a lack of sensitization to repeated **cocaine** exposures. These findings implicate type II PKA activity in these processes in **Drosophila** and imply a common role for PKA signaling in regulating responsiveness to **cocaine** and alcohol.

; Amino Acid Sequence; Animals; Circadian Rhythm; Cloning, Molecular; **Cocaine** --pharmacology--PD; Cyclic AMP--pharmacology--PD; Cyclic AMP-Dependent Protein Kinases--chemistry--CH; Cyclic AMP-Dependent Protein Kinases--deficiency--DF; Drosophila melanogaster--genetics--GE; Ethanol...

Chemical Name: **Cocaine** ; Cyclic AMP; Ethanol; Cyclic AMP-Dependent Protein Kinases

13/3,K/11 (Item 11 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

12776797 PMID: 10704417

Ectopic G-protein expression in dopamine and serotonin neurons blocks cocaine **sensitization in Drosophila melanogaster.**
Li H; Chaney S; Roberts I J; Forte M; Hirsh J
Department of Biology, Gilmer Hall, University of Virginia, Charlottesville, Virginia 22903, USA.
Current biology - CB (ENGLAND) Feb 24 2000, 10 (4) p211-4, ISSN 0960-9822 Journal Code: 9107782
Contract/Grant No.: GM/DA27318; GM; NIGMS
Publishing Model Print; Erratum in Curr Biol 2000 May 18;10(10) R393
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Ectopic G-protein expression in dopamine and serotonin neurons blocks cocaine **sensitization in Drosophila melanogaster.**
Sensitization to repeated doses of **psychostimulants** is thought to be an important component underlying the addictive process in humans [1] [2] [3] [4]. In all vertebrate animal models, including humans [5], and even in fruit **flies** , sensitization is observed after repeated exposure to volatilized crack **cocaine** [6]. In vertebrates, sensitization is thought to be initiated by processes occurring in brain regions that contain dopamine cell bodies [2] [7]. Here, we show that modulated cell signaling in the **Drosophila** dopamine and serotonin neurons plays an essential role in **cocaine** sensitization. Targeted expression of either a stimulatory (Galpha(s)) or inhibitory (Galpha(i)) Galpha subunit, or tetanus toxin light chain (TNT) in dopamine and serotonin neurons of living **flies** blocked **behavioral** sensitization to repeated **cocaine** exposures. These **flies** showed alterations in their initial **cocaine** responsiveness that correlated with compensatory adaptations of postsynaptic receptor sensitivity. Finally, repeated drug stimulation of a nerve cord preparation that is postsynaptic to the brain...
Descriptors: ***Cocaine** --pharmacology--PD; *Dopamine--metabolism--ME; *GTP-Binding Protein alpha Subunits, Gi-Go--metabolism--ME; *GTP-Binding Protein alpha Subunits, Gs--metabolism--ME; *Neurons--metabolism--ME...
Chemical Name: Tetanus Toxin; **Cocaine** ; Serotonin; Dopamine; GTP-Binding Protein alpha Subunits, Gi-Go; GTP-Binding Protein alpha Subunits, Gs

13/3,K/12 (Item 12 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

12776794 PMID: 10704411
Dopamine modulates acute responses to cocaine , nicotine□and ethanol□ **in Drosophila.**
Bainton R J; Tsai L T; Singh C M; Moore M S; Neckameyer W S; Heberlein U
Department of Anesthesia, University of California San Francisco, California 94143-0452, USA.
Current biology - CB (ENGLAND) Feb 24 2000, 10 (4) p187-94, ISSN 0960-9822 Journal Code: 9107782
Contract/Grant No.: AA10035; AA; NIAAA; GM08440; GM; NIGMS
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Dopamine modulates acute responses to cocaine , nicotine□and ethanol□ **in Drosophila.**

... mechanisms by which dopamine regulates acute drug responses and addiction remain unknown. RESULTS: We present evidence that dopamine plays a role in the responses of **Drosophila** to **cocaine** ,□nicotine□or ethanol. We used a startle-induced negative geotaxis assay and a **locomotor** tracking system to measure the effect of **psychostimulants** on **fly behavior** . Using these assays, we show that acute responses to **cocaine** and **nicotine** are blunted by pharmacologically induced reductions in dopamine levels. **Cocaine** and **nicotine** showed a high degree of synergy in their effects, which is consistent with an action through convergent pathways. In addition, we found that dopamine is involved in the acute **locomotor** -activating effect, but not the sedating effect, of ethanol. CONCLUSIONS: We show that in **Drosophila** , as in mammals, dopaminergic pathways play a role in modulating specific **behavioral** responses to **cocaine** , **nicotine** or ethanol. We therefore suggest that□Drosophila□ can be used as a genetically tractable model system in which to study the mechanisms underlying **behavioral** responses to multiple drugs of abuse.
Descriptors: ***Cocaine** --metabolism--ME; *Dopamine--metabolism--ME; *Ethanol--metabolism--ME; **Nicotine** --metabolism--ME
Chemical Name: **Cocaine** ; Dopamine; **Nicotine** ; Ethanol

13/3,K/13 (Item 13 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

12618602 PMID: 10531026
Cocaine **addiction: clues from Drosophila on drugs.**
Wolf M E
Department of Neuroscience, The Chicago Medical School, 3333 Green Bay Road, North Chicago, Illinois, 60064-3095, USA.
Current biology - CB (ENGLAND) Oct 21 1999, 9 (20) pR770-2, ISSN 0960-9822 Journal Code: 9107782
Publishing Model Print
Document type: Journal Article; Review; Review, Tutorial
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Cocaine **addiction: clues from Drosophila on drugs.**
Recent studies have shown that the fruitfly **Drosophila** exhibits **behavioral** sensitization in response to repeated exposure to **cocaine** ; the exploitation of this genetically tractable model system for studying **cocaine** addiction is already providing new clues that may help understand the process of drug addiction in man.
Descriptors: ***Cocain** e-Related Disorders--etiology--ET; Animals; Behavior, Animal--drug effects--DE; Behavior, Animal--physiology--PH; Catecholamines--physiology--PH; **Cocaine** --administration and dosage--AD; **Cocaine** --toxicity--TO; Disease Models, Animal; Drosophila--drug effects --DE; Drosophila--physiology--PH; Humans
Chemical Name: Catecholamines; **Cocaine**

13/3,K/14 (Item 14 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

12282127 PMID: 9593105
Activating properties of cocaine **and cocaethylene in a** behavioral **preparation of** Drosophila **melanogaster.**
Torres G; Horowitz J M

Department of Psychology, State University of New York at Buffalo, 14260, USA. gtorres@acsu.buffalo.edu
Synapse (New York, N.Y.) (UNITED STATES) Jun 1998, 29 (2) p148-61, ISSN 0887-4476 Journal Code: 8806914
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Activating properties of cocaine **and cocaethylene in a** behavioral **preparation of** Drosophila **melanogaster**.

The use of **Drosophila** as a model to study the **behavioral** consequences of stimulant drugs was analyzed in an active preparation of decapitated **Drosophila** . Application of **cocaine** and cocaethylene to discrete nerve cord cells regulating motor programs of **behavior** produced striking patterns of **behavioral** activity in a concentration-related manner. In general, intense circling **behavior** and significant wing buzzing activity were distinguishable **behavioral** markers in **flies** treated with mM concentrations of **cocaine** or cocaethylene. The significant changes in motor **behavior** induced by stimulant drugs in decapitated **flies** were not reproduced by the application of apomorphine, a direct dopamine (DA) agonist, or octopamine, a naturally occurring transmitter in arthropods. Because both **cocaine** and cocaethylene interfere with DA reuptake in mammals, we characterized the role of DA receptors mediating increased stereotypy and motor **behavior** in **flies** . Coadministration of SCH-23390, a specific D1 receptor antagonist, significantly attenuated the **behavior** -activating properties of **cocaine** and cocaethylene in this active experimental preparation. Therefore, the receptor protein mediating the **behavioral** responses to stimulant drugs in **Drosophila** is pharmacologically similar to the mammalian D1 subtype. In rats, **cocaine** - and cocaethylene-induced **behavioral** activity is complex, with increasing evidence that the D1 receptor interacts significantly with N-methyl-D-aspartate (NMDA) receptor pathways to produce an altered **behavioral** phenotype. To further characterize additional receptor subtypes targeted by the actions of **cocaine** and cocaethylene, we pretreated **flies** with MK-801 and dextromethorphan. Both of these drugs are potent, selective noncompetitive NMDA receptor antagonists. Interestingly, MK-801 and dextromethorphan profoundly reduced the **behavior** -activating properties of **cocaine** and cocaethylene in **Drosophila** . Therefore, as in rats, the NMDA (and D1) receptor pathways in this arthropod represent obligatory targets for the **behavioral** effects of stimulant drugs.

Descriptors: *Behavior, Animal--drug effects--DE; * **Cocaine** --analogs and derivatives--AA; *Dopamine Uptake Inhibitors--pharmacology--PD; *Drosophila melanogaster--physiology--PH; Adrenergic alpha-Agonists--pharmacology--PD; Animals; **Cocaine** --pharmacology--PD; Dopamine Agonists--pharmacology--PD; Microscopy, Electron, Scanning; Motor Activity--drug effects--DE; Nervous System--drug effects--DE; Nervous System--ultrastructure--UL; Receptors, Dopamine...
Chemical Name: Adrenergic alpha-Agonists; Dopamine Agonists; Dopamine Uptake Inhibitors; Receptors, Dopamine D1; **Cocaine** ; cocaethylene

13/3,K/15 (Item 15 from file: 155)

12126911 PMID: 9427649
Stereotypic behavioral **responses to free-base** cocaine □and the□

development of behavioral **sensitization in** Drosophila□.□
McClung C; Hirsh J
Department of Biology, University of Virginia, Charlottesville, Virginia 22903, USA.
Current biology - CB (ENGLAND) Jan 15 1998, 8 (2) p109-12, ISSN 0960-9822 Journal Code: 9107782
Contract/Grant No.: GM 27318; GM; NIGMS
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Stereotypic behavioral **responses to free-base** cocaine □and the□ **development of** behavioral **sensitization in** Drosophila□.□
Cocaine abuse is a large social and economic problem that has received much public and scientific attention in recent years. Rodent and primate models have been used to study the **behavioral** and neurological effects of **cocaine** . Repeated intermittent doses of **cocaine** lead to progressive increases in both **locomotor** activity and stereotyped behaviors known as 'reverse tolerance' or **behavioral** sensitization, which may model the **behavioral** and neurochemical processes occurring in **cocaine** -addicted humans [1]. The biological basis of sensitization is poorly understood. We report that free-base **cocaine** administered in volatile form to the fruit **fly** **Drosophila** melanogaster induces multiple reflexive motor responses that resemble **cocaine** -induced behaviors in rodents. These behaviors are both dose dependent and sexually dimorphic. Furthermore, **Drosophila** develops a **behavioral** sensitization to intermittent doses of **cocaine** . These results suggest that the pathways leading to **cocaine** -induced responses and sensitization are evolutionarily conserved between **Drosophila** and higher vertebrates, and that this genetically tractable animal can be used as a new model system to help determine the biological mechanisms underlying these...
Descriptors: ***Cocaine** --pharmacology--PD; *Drosophila melanogaster--drug effects--DE; *Motor Activity--drug effects--DE; *Stereotyped Behavior
Chemical Name: **Cocaine**

13/3,K/16 (Item 16 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

11795285 PMID: 9045743
Alterations in frequency coding and activity dependence of excitability in cultured neurons of Drosophila memory mutants.
Zhao M L; Wu C F
Department of Biological Sciences, University of Iowa, Iowa City, Iowa 52242, USA.
Journal of neuroscience - the official journal of the Society for Neuroscience (UNITED STATES) Mar 15 1997, 17 (6) p2187-99, ISSN 0270-6474 Journal Code: 8102140
Contract/Grant No.: HD 18577; HD; NICHD; NS 26528; NS; NINDS
Publishing Model Print
Document type: Journal Article
Languages: ENGLISH
Main Citation Owner: NLM
Record type: MEDLINE; Completed

Mutants of the **Drosophila** dunce (dnc) and rutabaga (rut) genes, which encode a cAMP-specific phosphodiesterase and a calcium/calmodulin-responsiv

e adenylyl cyclase, respectively, are deficient in short-term...

... problem by using the "giant" neuron culture, which offers a unique opportunity to analyze mutational effects on neuronal activity and the underlying ionic currents in **Drosophila** . On the basis of instantaneous frequency and first latency of spikes evoked by current steps, four categories of firing patterns (tonic, adaptive, delayed, and interrupted...

... interesting parallels to those commonly observed in vertebrate CNS neurons. The distinct firing patterns were correlated with expression of different ratios of 4-aminopyridine- and **tetraethylammonium** -sensitive K+ currents. Subsets of dnc and rut neurons displayed abnormal spontaneous spikes and altered firing patterns. Altered frequency coding in mutant neurons was demonstrated...

... activity and altered frequency coding in different stimulus paradigms may present problems in the stability and reliability of neural circuits for information processing during certain **behavioral** tasks, raising the possibility of modulation in neuronal excitability as a cellular mechanism underlying learning and memory.

13/3,K/17 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0014837876 BIOSIS NO.: 200400205509
Manipulation of Drosophila biogenic amine pathways and their implication in cocaine **reponse.**
AUTHOR: Cole S H (Reprint); Hirsh J (Reprint)
AUTHOR ADDRESS: Dept. of Biol., Univ. of Virginia, Charlottesville, VA, USA **USA
JOURNAL: Society for Neuroscience Abstract Viewer and Itinerary Planner 2003 pAbstract No. 857.7 2003 2003
MEDIUM: e-file
CONFERENCE/MEETING: 33rd Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 08-12, 2003; 20031108
SPONSOR: Society of Neuroscience
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

Manipulation of Drosophila biogenic amine pathways and their implication in cocaine **reponse.**

ABSTRACT: Exposure to **psychostimulants** such as **cocaine** induces stereotypic, reflexive motor behaviors in vertebrate animal models of **psychostimulant** abuse, and in **Drosophila** melanogaster. Repeated doses of **cocaine** result in a phenomenon known as **behavioral** sensitization, which is defined as a long-lasting augmentation of drug responsiveness and is believed to be a correlative part of the addictive process. Like vertebrates, **Drosophila** possess **cocaine** -sensitive transporters for dopamine and serotonin, and similar post-synaptic signaling cascades have been implicated in **cocaine** responsiveness. Perhaps unique to **Drosophila** , the trace amine tyramine and its synthesizing enzyme, tyrosine decarboxylase (TDC), also play important roles in the development of **behavioral** sensitization. We are developing a number of molecular tools that will allow us to more thoroughly examine of the role of serotonin, dopamine, and tyramine in **cocaine** responsiveness and sensitization. Among these tools is a series of RNAi constructs that will

knock-down the expression of several biogenic amine transporters and receptors...

...this RNAi system in addition to a number of other molecular reagents, we hope to more clearly define the roles of the biogenic amines in **Drosophila** **cocaine** responsiveness and sensitization.
...REGISTRY NUMBERS: **cocaine** ;
DESCRIPTORS:
DISEASES: **psychostimulant** abuse...
CHEMICALS & BIOCHEMICALS: ... **cocaine** ; ...

... **psychostimulant** ;

13/3,K/18 (Item 2 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0014832018 BIOSIS NO.: 200400199651
Destruction of the suprachiasmatic nucleus alters cocaine **- induced reinstatement of conditioned place preference behavior in rats.**
AUTHOR: Sleipness E P (Reprint); Sorg B A (Reprint); Bailie T M (Reprint); Jansen H T (Reprint)
AUTHOR ADDRESS: VCAPP, Washington State Univ., Pullman, WA, USA**USA
JOURNAL: Society for Neuroscience Abstract Viewer and Itinerary Planner 2003 pAbstract No. 420.11 2003 2003
MEDIUM: e-file
CONFERENCE/MEETING: 33rd Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 08-12, 2003; 20031108
SPONSOR: Society of Neuroscience
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

Destruction of the suprachiasmatic nucleus alters cocaine **- induced reinstatement of conditioned place preference behavior in rats.**

...ABSTRACT: B.A. Sorg, T.M. Bailie*, and H.T. Jansen. Program in Neuroscience, Washington State University, Pullman, WA 99164. A time-of-day effect on **cocaine** -seeking **behavior** is supported by studies showing that mice given **cocaine** 4 hrs after light onset (ZT4) exhibit more **locomotor** sensitization and conditioned place preference (CPP) to the drug than mice given **cocaine** at dark onset. Additionally, **Drosophila** and mice lacking the circadian transcription factor mPer1 do not exhibit **locomotor** sensitization to **cocaine** . mPer1 is robustly expressed in the brain's master pacemaker, the suprachiasmatic nucleus of the hypothalamus (SCN), in a circadian fashion. Thus, we tested the hypothesis that the SCN plays a role in acquisition, extinction, and/or reinstatement of **cocaine** -induced CPP in rats. The SCN was destroyed in rats (SCNx), which 2 wks later were trained for **cocaine** -induced CPP. Rats were maintained on a 12L:12D light regimen and all **behavioral** testing was performed at ZT4.5. After testing for side preference, rats were given extinction sessions (8 days) during which no **cocaine** was given. This was followed by testing for **cocaine** -induced reinstatement using two doses of **cocaine** : 5 mg/kg and 10 mg/kg, each separated by one extinction day. SCNx animals exhibited no 24 hr activity rhythm and nighttime corticosterone concentrations in these animals were significantly lower than sham-operated controls. Both groups displayed similar acquisition and extinction of CPP. **Cocaine** (5 mg/kg) produced mild reinstatement of place preference in both groups of animals.

However, at a higher (10 mg/kg) **cocaine** dose, reinstatement was completely prevented in SCNx rats. By contrast, reinstatement in sham rats was significantly greater when compared with the 5 mg/kg **cocaine** response. We conclude that the circadian generator in the SCN plays a role in the reinstatement of **cocaine** -induced CPP.
...REGISTRY NUMBERS: **cocaine** ;
DESCRIPTORS:
DISEASES: **cocaine** -seeking behavior...
CHEMICALS & BIOCHEMICALS: **cocaine** ;
MISCELLANEOUS TERMS: **cocaine** -induced reinstatement...

13/3,K/19 (Item 3 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0014830427 BIOSIS NO.: 200400198060
Nicotine **regulates calcium fluxes and gene expression in cultured Drosophila neurons.**
AUTHOR: Campusano J (Reprint); O'Dowd D K (Reprint)
AUTHOR ADDRESS: Anat. and NeuroBiol., Univ. of California Irvine, Irvine, CA, USA**USA
JOURNAL: Society for Neuroscience Abstract Viewer and Itinerary Planner 2003 pAbstract No. 322.4 2003 2003
MEDIUM: e-file
CONFERENCE/MEETING: 33rd Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 08-12, 2003; 20031108
SPONSOR: Society of Neuroscience
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

Nicotine **regulates calcium fluxes and gene expression in cultured Drosophila neurons.**

ABSTRACT: **Nicotine** addiction, in the form of tobacco use, is a significant health problem worldwide. It is clear that nAChRs, pore forming ion channels in the CNS, are the initial site of **nicotine** action. However, the link between activation of nAChRs and **behavioral** responses such as addiction remain poorly understood. In this study we used **Drosophila** , a genetically tractable model system, to identify genes and signaling cascades regulated by **nicotine** . We have previously shown that curare-sensitive nAChRs mediate fast excitatory synaptic transmission in cultured **Drosophila** neurons. In this study fura-2 calcium imaging demonstrates that **nicotine** (0.1-100 muM) causes a rapid, dose-dependent, saturable increase in intracellular calcium levels in differentiated neurons. The **nicotine** -induced increase is blocked by curare demonstrating that it is mediated by nAChRs. Addition of cobalt reduces but does not eliminate the **nicotine** -induced elevation in intracellular calcium. This suggests that the response is due to a combination of calcium flux through voltage-gated calcium channels and the receptor itself. Since calcium levels can influence gene expression, we examined the effect of **nicotine** on gene expression using microarrays. Neuronal cultures, at 3-4 days in vitro were exposed to 10 muM **nicotine** for 15 minutes. Over 100 genes exhibited significant changes in expression between 45 min. and 6 hours after the **nicotine** stimulus. These include genes encoding transcription factors, cell adhesion molecules, and two enzymes necessary for the synthesis of biogenic amines acting in neurochemical pathways previously...
...differentially regulated genes are ESTs. Mutant analysis and RNAi

methods will be employed to examine the function of these genes in mediating neuronal responses to **nicotine** including increases in intracellular calcium.
...REGISTRY NUMBERS: **nicotine** ;
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ... **nicotine** ;

13/3,K/20 (Item 4 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0014827072 BIOSIS NO.: 200400194705
CLOCK and NPAS2 differentially regulate cocaine **reward.**
AUTHOR: McClung C A (Reprint); Cooper D C; Sidiropoulou K; Young Q L (Reprint); Sanchez N (Reprint); Vitaterna M; Garcia J A (Reprint); Takahashi J S; White F J; Nestler E J (Reprint)
AUTHOR ADDRESS: UT Southwestern Med. Ctr, Dallas, TX, USA**USA
JOURNAL: Society for Neuroscience Abstract Viewer and Itinerary Planner 2003 pAbstract No. 112.17 2003 2003
MEDIUM: e-file
CONFERENCE/MEETING: 33rd Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 08-12, 2003; 20031108
SPONSOR: Society of Neuroscience
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

CLOCK and NPAS2 differentially regulate cocaine **reward.**

...ABSTRACT: PAS proteins, which are thought to be functional analogs involved in the regulation of circadian rhythms in various regions of the brain. Previous studies in **Drosophila** demonstrate that the per, clk, cyc and dbt genes are necessary for **cocaine** sensitization. Also, mice lacking the mper1 gene do not develop sensitization to **cocaine** and show a marked reduction in conditioned reward. In this study we sought to further characterize the involvement of bHLH-PAS proteins in the regulation of **cocaine** sensitization and reward. We found that the loss of CLOCK vs NPAS2 has opposite effects on **cocaine** reward, with CLOCK mutant mice demonstrating a greater preference for **cocaine** while NPAS2 mutant mice display less preference for **cocaine** . Neither mutation caused a defect in **locomotor** sensitization, suggesting that these genes have a greater involvement in reward. Furthermore, CLOCK mutants are hyperactive in response to novelty, while NPAS2 mutants show normal...

...CLOCK mutants also exhibit an increase in dopamine cell bursting and firing rates in the ventral tegmental area (VTA) that may contribute to their increased **locomotor** response to novelty and preference for **cocaine** . To identify the target genes through which CLOCK and NPAS2 modulate **cocaine** reward, gene expression studies are being conducted using microarray analysis. Interestingly, several genes upregulated in the nucleus accumbens of the NPAS2 mice have been shown to correlate with decreased preference for **cocaine** in previous studies. Taken together, these studies point to distinct roles of NPAS2 and CLOCK in regulating **cocaine** reward.
...REGISTRY NUMBERS: **cocaine** ;
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ... **cocaine** ;
MISCELLANEOUS TERMS: **cocaine** reward...

13/3,K/21 (Item 5 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0014827043 BIOSIS NO.: 200400194676
Circadian properties of striatal D2 and D3 dopamine receptors and quinpirole - induced behaviors in mice.
AUTHOR: Akhisaroglu M (Reprint); Manev H (Reprint); Uz T (Reprint)
AUTHOR ADDRESS: Psychiatric Inst., Univ. of Illinois, Chicago, IL, USA**USA
JOURNAL: Society for Neuroscience Abstract Viewer and Itinerary Planner 2003 pAbstract No. 111.3 2003 2003
MEDIUM: e-file
CONFERENCE/MEETING: 33rd Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 08-12, 2003; 20031108
SPONSOR: Society of Neuroscience
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Dopamine receptors play an important role in **psychostimulant** -induced behaviors such as sensitization. **Psychostimulants** , such as **cocaine** and metamphetamine, show circadian rhythmicity in their **behavioral** effects. Dopamine release and binding sites demonstrate a circadian profile in the rodent brain. In addition to **psychostimulants** , D2-like dopamine receptor agonists, such as quinpirole, induce **locomotor** activity changes leading to **behavioral** sensitization. Repeated injections of quinpirole cause biphasic effects on locomotion, starting with an initial decrease (hypoactivity), followed by an increase (hyperactivity) in **locomotor** activity. In fruit **flies** , responsiveness to quinpirole is influenced by the circadian rhythm. Here for the first time, we demonstrate circadian changes in quinpirole-induced behaviors in C3H/HeJ...

...high levels at night. Our results indicate that the balance between D2 and D3 dopamine receptor levels is important for development of dopamine receptor-mediated **behavioral** sensitization. Further research into the mechanisms regulating the circadian rhythmicity of D2 and D3 dopamine receptors and DAT is needed to better understand the mechanisms...
...REGISTRY NUMBERS: **cocaine** ;
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ... **cocaine** ; ...

... **psychostimulant** ;

13/3,K/22 (Item 6 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0014424003 BIOSIS NO.: 200300381280
DRUGS, FLIES, AND VIDEOTAPE: MOLECULAR GENETICS OF DRUG - INDUCED BEHAVIORS IN DROSOPHILA.
AUTHOR: Heberlein U (Reprint)
AUTHOR ADDRESS: Dept Anat, Univ California, San Francisco, CA, USA**USA
JOURNAL: Society for Neuroscience Abstract Viewer and Itinerary Planner 2002 pAbstract No. 5. 2002 2002
MEDIUM: cd-rom
CONFERENCE/MEETING: 32nd Annual Meeting of the Society for Neuroscience Orlando, Florida, USA November 02-07, 2002; 20021102

SPONSOR: Society for Neuroscience
DOCUMENT TYPE: Meeting; Meeting Poster; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: The **behavioral** responses of **Drosophila** to drugs of abuse, such as ethanol and **psychostimulants** , are surprisingly similar to those observed in mammals. We use the fruit **fly** , with its accessibility to genetic, **behavioral** , and molecular analyses, to define the genes and neural circuits that regulate behaviors induced by acute and chronic drug administration.
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ... **psychostimulant** --

13/3,K/23 (Item 7 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0014347619 BIOSIS NO.: 200300305108
CIRCADIAN DIFFERENCES IN THE ABILITY OF COCAINE **TO INDUCE BEHAVIORAL SENSITIZATION IN MICE.**
AUTHOR: Uz T (Reprint); Javaid J (Reprint); Manev H (Reprint)
AUTHOR ADDRESS: Psychiatric Inst, Univ Illinois Chicago, Chicago, IL, USA** USA
JOURNAL: Society for Neuroscience Abstract Viewer and Itinerary Planner 2002 pAbstract No. 501.2 2002 2002
MEDIUM: cd-rom
CONFERENCE/MEETING: 32nd Annual Meeting of the Society for Neuroscience Orlando, Florida, USA November 02-07, 2002; 20021102
SPONSOR: Society for Neuroscience
DOCUMENT TYPE: Meeting; Meeting Abstract; Meeting Poster
RECORD TYPE: Abstract
LANGUAGE: English

CIRCADIAN DIFFERENCES IN THE ABILITY OF COCAINE **TO INDUCE BEHAVIORAL SENSITIZATION IN MICE.**

ABSTRACT: **Behavioral** sensitization to repeated administration of **cocaine** has been well documented in various animal species. Fruit **flies** that are missing the circadian rhythm-related clock genes do not develop **behavioral** **cocaine** sensitization. We tested **cocaine** -induced **behavioral** sensitization during the day and at night in three strains of inbred mice, i.e., C3H/HeJ, CBA/J, and C57BL/6J. Repeated i.p. injections of **cocaine** during the day (9 to 10AM) for 3 days resulted in **behavioral** sensitization in all three strains. Treatment at night (12 to 1AM) did not induce **behavioral** sensitization in C3H/HeJ and CBA/J mice. C57BL/6J mice developed **behavioral** **cocaine** sensitization both during the day and at night. Genetic differences could significantly affect drug-induced behaviors. C3H/HeJ and CBA/J mice, which showed circadian differences in **cocaine** sensitization, express regular circadian N-acetylserotonin (NAS) and melatonin rhythm. In contrast, C57BL/6J mice that lack circadian **cocaine** sensitization also have a natural mutation in the AANAT gene encoding the enzyme arylalkylamine N-acetyltransferase (AANAT) responsible for NAS/melatonin synthesis. Our results demonstrated a circadian difference in the development of **cocaine** -induced **behavioral** sensitization in mice. Along with the findings in fruit **flies** , our data suggest that circadian molecules, e.g., clock genes and circadian hormones, are possible mechanisms involved in addiction. Further studies will investigate the interaction between these molecules

and their possible causal role in modifying **behavioral** sensitization to **cocaine** .
...REGISTRY NUMBERS: **cocaine** ;
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: **cocaine** -- **psychostimulant** ;

13/3,K/24 (Item 8 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0014336163 BIOSIS NO.: 200300293982
IDENTIFICATION OF A SEROTONIN TRANSPORTER FROM THE METACEREBRAL CELL OF Aplysia.
AUTHOR: Boudko D Y (Reprint); Kohn A (Reprint); Sadreyev R I (Reprint); Panchin Y V (Reprint); Bodnarova M (Reprint); Alexeeva V; Weiss K R; Moroz L L (Reprint); Vilim F S
AUTHOR ADDRESS: Whitney Lab., University of Florida, St. Augustine, FL, USA **USA
JOURNAL: Society for Neuroscience Abstract Viewer and Itinerary Planner 2002 pAbstract No. 335.7 2002 2002
MEDIUM: cd-rom
CONFERENCE/MEETING: 32nd Annual Meeting of the Society for Neuroscience Orlando, Florida, USA November 02-07, 2002; 20021102
SPONSOR: Society for Neuroscience
DOCUMENT TYPE: Meeting; Meeting Poster; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

...ABSTRACT: involved in feeding, locomotion, learning and memory. In Aplysia the giant serotonergic metacerebral cell (MCC) plays an important role in the plasticity of food arousal **behavior** . Independently using cDNA subtraction and ESTs from the MCC, we have cloned a 12-transmembrane domains protein (Aplysia serotonin transporter-AST) that exhibits homology to the previously described **cocaine** -sensitive 5-HT transporters. We mapped the expression of AST in Aplysia tissue using in situ hybridization and immunocytochemistry. A similar labeling pattern was observed...

...the ability to transport serotonin in a sodium/chloride dependent manner. However, the pharmacological properties of AST differ from the previously described serotonin transporters in **Drosophila** , C. elegans and vertebrates. Pharmacological alteration of the function of this transporter may provide insights into the role of serotonin in **behavioral** plasticity of Aplysia.

13/3,K/25 (Item 9 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0013375584 BIOSIS NO.: 200100547423
Gender-differentiated gene expression in rats
AUTHOR: Chandhoke V (Reprint); Fryxell K J (Reprint); Christensen A H (Reprint); Grant G M (Reprint); Smith R F (Reprint)
AUTHOR ADDRESS: Shared Res Instrumentation Fac, George Mason Univ, Fairfax, VA, USA**USA
JOURNAL: Society for Neuroscience Abstracts 27 (1): p1436 2001 2001
MEDIUM: print
CONFERENCE/MEETING: 31st Annual Meeting of the Society for Neuroscience

San Diego, California, USA November 10-15, 2001; 20011110
ISSN: 0190-5295
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Microarray technology allows evaluation of expression of large numbers of genes simultaneously. As part of a larger effort to evaluate effects of **cocaine** on gene expression during both early and late development, we obtained whole brains from undosed Long-Evans hooded rats at Day 60 of postnatal development...
...13.3% of genes examined. This figure is similar in magnitude to a figure of apprx20% of genes expressed in a sexually differentiated fashion in **Drosophila** . We suggest that (a) gender differentiated brain and **behavior** effects may be partly attributable to differential expression of a large proportion of the genome, and (b) gender-differentiated effects of **cocaine** or other drugs may be attributable to drug effects on a subset of these genes.

13/3,K/26 (Item 10 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0013332186 BIOSIS NO.: 200100504025
Drosophila tyrosine decarboxylase: A gene critical for cocaine **sensitization**
AUTHOR: Cole S H (Reprint); McClung C A; Hirsh J (Reprint)
AUTHOR ADDRESS: Neuroscience, University of Virginia, Charlottesville, VA, USA**USA
JOURNAL: Society for Neuroscience Abstracts 27 (1): p592 2001 2001
MEDIUM: print
CONFERENCE/MEETING: 31st Annual Meeting of the Society for Neuroscience San Diego, California, USA November 10-15, 2001; 20011110
ISSN: 0190-5295
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

Drosophila tyrosine decarboxylase: A gene critical for cocaine **sensitization**

ABSTRACT: The trace amine tyramine and its synthetic enzyme, tyrosine decarboxylase (TDC), play important roles in the development of **behavioral** sensitization to **cocaine** in□Drosophila□melanogaster. Previous work from our laboratory has shown that TDC activity is induced in the **Drosophila** brain subsequent to a single **cocaine** exposure. This induction occurs apprx6 hours after exposure, a time course similar to that required for the development of **behavioral** sensitization. To further study this induction, we identified two candidate tyrosine decarboxylase genes based on sequence similarity to known plant TDCs. Both genes were cloned...

...one of these gene products, tdc1, showed significant TDC activity in E. coli extracts. To further assess the involvement of tdc1 in the development of **behavioral** sensitization to **cocaine** , we are developing tools to characterize the regulation of tdc1 as well as its temporal and spatial distribution in the **Drosophila** nervous system. By understanding the mechanisms by which TDC activity is regulated and in which neurons it is expressed, we hope to provide clues regarding the basic mechanisms of

cocaine sensitization in the vertebrate brain.
...REGISTRY NUMBERS: **cocaine** ;
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: **cocaine** --

13/3,K/27 (Item 11 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0013307319 BIOSIS NO.: 200100479158
The role of the D1 dopamine receptor DAMB in cocaine **and alcohol induced behaviors of Drosophila melanogaster**
AUTHOR: Han K (Reprint); Mahmoud T (Reprint); Liu S (Reprint); Whembolua L (Reprint)
AUTHOR ADDRESS: Dept. Biobehavioral Hlth, Penn State Univ, University Park, PA, USA**USA
JOURNAL: Society for Neuroscience Abstracts 27 (1): p236 2001 2001
MEDIUM: print
CONFERENCE/MEETING: 31st Annual Meeting of the Society for Neuroscience San Diego, California, USA November 10-15, 2001; 20011110
ISSN: 0190-5295
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

The role of the D1 dopamine receptor DAMB in cocaine **and alcohol induced behaviors of Drosophila melanogaster**

ABSTRACT: Neuromodulation is a key physiological process underlying **behavioral** plasticity in vertebrates as well as invertebrates. One of the neuromodulators, dopamine, is heavily implicated in various physiological processes including learning, memory and drug addiction...

...the brain. In an effort to elucidate selective roles and underlying cellular mechanisms of each receptor subtype, we isolated a member of D1 family from **Drosophila** melanogaster, named DAMB. DAMB not only stimulates increases in cAMP and intracellular calcium but also displays quite specific expression in the mushroom bodies of **Drosophila** brain. Mushroom bodies are bilateral structures crucial for associative **behavior** . Using mutants containing deletion in the DAMB locus we are exploring a role of DAMB in mediating the effects of **cocaine** and alcohol. Upon exposure to these addictive drugs **flies** display stereotypic behaviors analogous to those of mammals. They include **locomotor** and "euphoric" responses, and loss of motor control. Moreover, they show enhanced motor output with repeated **cocaine** exposure (sensitization) and reduced response to repeated alcohol exposure (tolerance). Comparative analysis of **behavioral** responses of damb mutants and control lines to single vs. double exposures of **cocaine** and alcohol will clarify whether the D1 dopamine receptor DAMB plays a selective role in mediating various effects of **cocaine** and alcohol.
...REGISTRY NUMBERS: **cocaine** ;
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ... **cocaine** ;

13/3,K/28 (Item 12 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0013306276 BIOSIS NO.: 200100478115
Functional genomics of memory
AUTHOR: Dubnau J (Reprint); Gossweiler S (Reprint); Certa U; Broger C; Neeb M; Tully T (Reprint)
AUTHOR ADDRESS: Cold Spring Harbor Lab, Cold Spring Harbor, NY, USA**USA
JOURNAL: Society for Neuroscience Abstracts 27 (1): p236 2001 2001
MEDIUM: print
CONFERENCE/MEETING: 31st Annual Meeting of the Society for Neuroscience San Diego, California, USA November 10-15, 2001; 20011110
ISSN: 0190-5295
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Convergent data both from in vitro and in vivo manipulations in numerous model systems indicate that a common regulatory mechanism underlying long-term **behavioral** plasticity involves activation of a cAMP responsive transcription factor, CREB. LTM in **flies** , mice, and rats - as well as long term potentiation in mice, long-term facilitation (the cellular correlate of **behavioral** sensitization) in Aplysia, and long-lasting sensitization to **cocaine** in rodents and **flies** - all involve induction CREB via spaced application of neuronal stimuli. In **Drosophila** , for example, spaced training results in several short-term forms of memory, as well as in long-term memory, which is CREB- and protein synthesis...
...REGISTRY NUMBERS: **cocaine**
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ... **cocaine**

13/3,K/29 (Item 13 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0012948776 BIOSIS NO.: 200100120615
The involvement of octopamine and tyramine in circadian rhythms and investigation of their biosynthesis pathway in Drosophila
AUTHOR: McClung C A (Reprint); Andretic R; Hirsh J
AUTHOR ADDRESS: Univ Virginia, Charlottesville, VA, USA**USA
JOURNAL: Society for Neuroscience Abstracts 26 (1-2): pAbstract No.-657.39 2000 2000
MEDIUM: print
CONFERENCE/MEETING: 30th Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 04-09, 2000; 20001104
SPONSOR: Society for Neuroscience
ISSN: 0190-5295
DOCUMENT TYPE: Meeting; Meeting Poster
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Octopamine and its precursor, tyramine, are thought to be important neurotransmitters in the insect nervous system. However, the role that they play in **behavior** remains unclear. We have shown previously that tyramine, along with several genes that make up the circadian clock, play important roles in **behavioral** responsiveness to **cocaine** and sensitization. In these studies we find that tyrosine decarboxylase (TDC) activity seems to be regulated by the period gene after **cocaine** exposure. Thus far, the structural gene for TDC has not been cloned in **Drosophila** . Our work towards cloning this gene will be discussed. Furthermore, we show that octopamine and tyramine are involved

in maintaining circadian rhythms and may interact directly with the circadian clock. This demonstrates a further link between these molecules in controlling **behavior** .

13/3,K/30 (Item 14 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0012925844 BIOSIS NO.: 200100097683
PKAII-deficient Drosophila are viable but show developmental, circadian and drug response phenotypes
AUTHOR: Park S (Reprint); Sedore S A; Cronmiller C; Hirsh J
AUTHOR ADDRESS: University of Virginia, Charlottesville, VA, USA**USA
JOURNAL: Society for Neuroscience Abstracts 26 (1-2): pAbstract No.-473.16 2000 2000
MEDIUM: print
CONFERENCE/MEETING: 30th Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 04-09, 2000; 20001104
SPONSOR: Society for Neuroscience
ISSN: 0190-5295
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: We identified a unique Type II cAMP-dependent protein kinase regulatory subunit (PKA-RII) gene in **Drosophila** melanogaster, and a severely hypomorphic if not null mutation, pka-RII. Extracts from pka-RII **flies** selectively lack RII-specific autophosphorylation activity and show significantly reduced cAMP binding activity, attributable to the loss of functional PKA-RII. pka-RII shows two...

...increased basal PKA activity and apprx40% of normal cAMP-inducible PKA activity. pka-RII is fully viable but displays abnormalities of ovarian development, and multiple **behavioral** phenotypes including arrhythmic circadian **locomotor** activity, decreased sensitivity to ethanol and **cocaine** , and a lack of sensitization to repeated **cocaine** exposures. These findings implicate type II PKA (PKAII) activity in these processes in **Drosophila** and imply a common role for PKA signaling in regulating responsiveness to **cocaine** and alcohol.

13/3,K/31 (Item 15 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0012920529 BIOSIS NO.: 200100092368
Effects of cocaine **and ethanol self-consumption on** behavior□and□ **biogenic amine synthesis in** Drosophila **melanogaster**
AUTHOR: Torres G (Reprint); Vernace V A; Horowitz J M
AUTHOR ADDRESS: Medaille College. Agassiz Circle, Buffalo, NY, USA**USA
JOURNAL: Society for Neuroscience Abstracts 26 (1-2): pAbstract No.-482.4 2000 2000
MEDIUM: print
CONFERENCE/MEETING: 30th Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 04-09, 2000; 20001104
SPONSOR: Society for Neuroscience
ISSN: 0190-5295
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract

LANGUAGE: English

Effects of cocaine **and ethanol self-consumption on** behavior□and□
biogenic amine synthesis in Drosophila **melanogaster**

ABSTRACT: The ability of **Drosophila** genetics to reveal new insights into human addiction is provided in mutant **flies** that show differences in **cocaine** -ethanol self-consumption. Wild-type **flies** (of the Canton-S strain) were exposed to both **cocaine** (0, 50 or 100 mug) and ethanol (0, 5 or 10%) solutions mixed in food medium for either 1, 5 or 10 consecutive days. In addition, we exposed mutant **flies** defective in amorphic dopamine and serotonin synthesis to the aforementioned drug paradigm. We measured **behavioral** activity and brain biogenic amines using high-performance liquid chromatography after acute or chronic dual drug self-consumption. As predicted, **cocaine** -ethanol exposure resulted in significant changes in brain dopamine and serotonin levels in wild-type but not mutant **flies** . In contrast, mutant **flies** displayed significant bouts of **behavioral** activity that were incongruent with the lack of **behavioral** activity observed in wild-type **flies** . These paradoxical findings suggest that in addition to circulating dopamine and serotonin levels, other neurochemical systems are required for the full expression of **behavioral** activity normally associated with concomitant **cocaine** -ethanol ingestion.
...REGISTRY NUMBERS: **cocaine** ;
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: **cocaine** --

13/3,K/32 (Item 16 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0012905027 BIOSIS NO.: 200100076866
Basal hyperactivity and behavioral sensitization to cocaine **in clock mutant mice**
AUTHOR: Sidiropoulou K (Reprint); Cooper D C; Baker L; Vitaterna M H; Takahashi J S; White F J
AUTHOR ADDRESS: FUHS/Chicago Medical School, North Chicago, IL, USA**USA
JOURNAL: Society for Neuroscience Abstracts 26 (1-2): pAbstract No.-191.5 2000 2000
MEDIUM: print
CONFERENCE/MEETING: 30th Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 04-09, 2000; 20001104
SPONSOR: Society for Neuroscience
ISSN: 0190-5295
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

Basal hyperactivity and behavioral sensitization to cocaine **in clock mutant mice**

ABSTRACT: Genes that regulate circadian rythmicity in **Drosophila** are required for the induction of **behavioral** sensitization to **cocaine** (Andretic et al., 1999). To test whether disruption of circadian rhythms also alters the responsiveness of mice to **cocaine** , we utilized male mutant (MUT) mice (C57/BALB) with a mutation in the gene Clock that regulates properties of the circadian clock system. Wild type (WT) and MUT mice were treated with saline or **cocaine** (20 mg/kg, i.p.) once a day, for five days. Two days following treatment, the mice were given a

challenge injection of saline or **cocaine** (20 mg/kg, i.p.) and tested for ambulatory and rearing sensitization. The Clock MUT mice exhibited basal **locomotor** hyperactivity compared to WT mice, suggestive of enhanced dopamine system activity. Both MUT and WT mice showed the same percent increase in **locomotor** activity following a single **cocaine** injection. Both MUT and WT mice showed sensitized ambulatory and rearing activity in response to **cocaine** treatment. Therefore, in contrast to **Drosophila** , disruption of a gene (Clock) that regulates circadian rhythms in mice does not affect the acute or sensitized responses to **cocaine** .
...REGISTRY NUMBERS: **cocaine**
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: **cocaine**

13/3,K/33 (Item 17 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0012888581 BIOSIS NO.: 200100060420
LSD and flies: Drosophila melanogaster as a system to study gene response to hallucinogenic drugs and serotonin receptor activation
AUTHOR: Nichols C D (Reprint); Ronesi J; Sanders-Bush E
AUTHOR ADDRESS: Vanderbilt University School of Medicine, Nashville, TN, USA**USA
JOURNAL: Society for Neuroscience Abstracts 26 (1-2): pAbstract No.-46.14 2000 2000
MEDIUM: print
CONFERENCE/MEETING: 30th Annual Meeting of the Society of Neuroscience New Orleans, LA, USA November 04-09, 2000; 20001104
SPONSOR: Society for Neuroscience
ISSN: 0190-5295
DOCUMENT TYPE: Meeting; Meeting Abstract
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: At least four serotonin receptors are expressed in the adult **Drosophila** . Two of these are homologues to the mammalian 5-HT1A receptor. Another shares sequence similarity to the mammalian 5-HT2 class of receptor and has a similar ligand binding profile as the 5-HT2 receptor family. The fourth **fly** receptor is a functional homologue of the 5-HT7 receptor. Recent reports in the literature establishing **Drosophila** as a valid organism to study centrally acting drugs such as **cocaine** and ethanol have highlighted the similarities in the mechanism of action of these drugs between the **fly** and human. Given these similarities, we began investigating lysergic acid diethylamide (LSD) sensitivity in **flies** . Our goal is to develop **Drosophila** as a tool to genetically characterize homologues of rat genes that are differentially expressed by acute LSD treatment. In general, **flies** exhibit a response ranging from a slight decrease in activity to complete immobilization. Specifically, we are investigating the effect of LSD on the **fly** 's optomotor response, the **fly** 's natural tendency to follow a moving stripe. We have found that LSD administration reduces the number of **flies** that positively follow a moving stripe by 82%. This assay is also being employed to identify the receptor subtypes involved in LSD induced **behavior** by co-administering antagonists. For example, co-administerating ketanserin, a 5-HT2 receptor antagonist, partially blocks the LSD optomotor response. Results of these and other experiments will be presented to validate **Drosophila** as a system to study serotonin receptor biology.

13/3,K/34 (Item 18 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0011825729 BIOSIS NO.: 199900085389
Self-administration of cocaine **and ethanol solutions by** Drosophila **melanogaster. A** behavioral **study analysis**
AUTHOR: Torres G; Smith K E; Horowitz J M
AUTHOR ADDRESS: Behav. Neurosci. Program, Dep. Psychol., State Univ. N.Y. at Buffalo, Buffalo, NY 14260, USA**USA
JOURNAL: Society for Neuroscience Abstracts 24 (1-2): p2174 1998 1998
MEDIUM: print
CONFERENCE/MEETING: 28th Annual Meeting of the Society for Neuroscience, Part 2 Los Angeles, California, USA November 7-12, 1998; 19981107
SPONSOR: Society for Neuroscience
ISSN: 0190-5295
DOCUMENT TYPE: Meeting; Meeting Abstract; Meeting Poster
RECORD TYPE: Citation
LANGUAGE: English

Self-administration of cocaine **and ethanol solutions by** Drosophila **melanogaster. A** behavioral **study analysis**
...REGISTRY NUMBERS: **cocaine** ;
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: **cocaine** --

13/3,K/35 (Item 19 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0008533469 BIOSIS NO.: 199344096374
The behavior **genetics of** cocaine□and amphetamine in□Drosophila **melanogaster**
AUTHOR: Richmond Rollin C; Brandon Sue
AUTHOR ADDRESS: Dep. Biol., The Univ. S. Fla., Tampa, FL 33620, USA**USA
JOURNAL: Behavior Genetics 22 (6): p748 1992
CONFERENCE/MEETING: 22nd Annual Meeting of the Behavior Genetics Association Boulder, Colorado, USA July 2-5, 1992; 19920702
ISSN: 0001-8244
DOCUMENT TYPE: Meeting
RECORD TYPE: Citation
LANGUAGE: English

The behavior **genetics of** cocaine□and amphetamine in□Drosophila **melanogaster**
...REGISTRY NUMBERS: **COCAINE** ;
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: **COCAINE** ;

13/3,K/36 (Item 20 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

0007403249 BIOSIS NO.: 199140046140
COCAINE **AND AMPHETAMINE AFFECT THE** LOCOMOTOR BEHAVIOR **OF** DROSOPHILA **-MELANOGASTER**

AUTHOR: RICHMOND R C (Reprint); MENCH T L; GERTEISEN M F; BOYER M D; MITCHELL P E
AUTHOR ADDRESS: DEP BIOL, INDIANA UNIV, BLOOMINGTON, INDIANA 47405, USA** USA
JOURNAL: Society for Neuroscience Abstracts 16 (1): p304 1990
CONFERENCE/MEETING: 20TH ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE, ST. LOUIS, MISSOURI, USA, OCTOBER 28-NOVEMBER 2, 1990. SOC NEUROSCI ABSTR.
ISSN: 0190-5295
DOCUMENT TYPE: Meeting
RECORD TYPE: Citation
LANGUAGE: ENGLISH

COCAINE **AND AMPHETAMINE AFFECT THE** LOCOMOTOR BEHAVIOR **OF** DROSOPHILA **-MELANOGASTER**
...REGISTRY NUMBERS: **COCAINE** ;
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: **COCAINE** ;

13/3,K/37 (Item 21 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0006074258 BIOSIS NO.: 198885043149
EFFECTS OF LITHIUM RUBIDIUM AND TETRAETHYLAMMONIUM **CHLORIDE ON THE LOCOMOTOR ACTIVITY RHYTHM OF MUSCA-DOMESTICA**
AUTHOR: SCHMID H (Reprint); ENGELMANN W
AUTHOR ADDRESS: INST BIOL I, AUF DER MORGENSTELLE 1, D7400 TUEBINGEN, FRG** WEST GERMANY
JOURNAL: Journal of Interdisciplinary Cycle Research 18 (2): p83-102 1987
ISSN: 0022-1945
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: ENGLISH

EFFECTS OF LITHIUM RUBIDIUM AND TETRAETHYLAMMONIUM **CHLORIDE ON THE LOCOMOTOR ACTIVITY RHYTHM OF MUSCA-DOMESTICA**

ABSTRACT: The effect of Li+, Rb+ and tetraethylammoniumchloride (TEA) on the **locomotor** activity rhythm of Musca domestica was studied. Li+ as well as TEA lengthen the free run period .sigma.. This effect was more pronounced in animals with shorter period lengths. The effect of Rb+ depends on the previous period length. In **flies** which had a short period, Rb+ lengthened, and in those with a long period Rb+ shortened .sigma.. Replacing the Li+ solution with water reverted the...
...REGISTRY NUMBERS: **TETRAETHYLAMMONIUM** CHLORIDE
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ... **TETRAETHYLAMMONIUM** CHLORIDE

13/3,K/38 (Item 22 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)
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0005297492 BIOSIS NO.: 198732026383
EFFECTS OF LITHIUM AND RUBIDIUM AND OF TETRAETHYLAMMONIUM **CHLORIDE ON THE CIRCADIAN RHYTHM OF** LOCOMOTOR **ACTIVITY IN THE HOUSE** FLY **MUSCA-DOMESTICA**
AUTHOR: SCHMIDT H (Reprint); ENGELMANN W
AUTHOR ADDRESS: INST BIOLOGIE I, UNIV TUEBINGEN, MORGENSTELLE 1, D-7400

TUEBINGEN, FRG**WEST GERMANY
JOURNAL: Journal of Interdisciplinary Cycle Research 16 (4): p324 1985
CONFERENCE/MEETING: 2ND MEETING OF THE EUROPEAN SOCIETY FOR CHRONOBIOLOGY, MARBURG, WEST GERMANY, MAY 22-25, 1986. J INTERDISCIP CYCLE RES.
ISSN: 0022-1945
DOCUMENT TYPE: Meeting
RECORD TYPE: Citation
LANGUAGE: ENGLISH

EFFECTS OF LITHIUM AND RUBIDIUM AND OF TETRAETHYLAMMONIUM **CHLORIDE ON THE CIRCADIAN RHYTHM OF** LOCOMOTOR **ACTIVITY IN THE HOUSE** FLY **MUSCA-DOMESTICA**
...REGISTRY NUMBERS: **TETRAETHYLAMMONIUM** CHLORIDE
DESCRIPTORS:
CHEMICALS & BIOCHEMICALS: ... **TETRAETHYLAMMONIUM** CHLORIDE
?

Set	Items	Description
S1	8038	(LOCOMOTOR OR BEHAVIOR OR BEHAVIORAL) (S) (FLIES OR FLY OR DROSOPHILA)
S2	81	S1 AND (PSYCHOSTIMULANT? OR COCAINE OR NICOTINE OR STRYCHNINE OR PENTYLENETETRAZOLE OR TETRAETHYLAMMONIUM OR (LITHIUM (-W) CARBONATE) OR (NEUROACTIVE (W) DRUG?))
S3	0	S2 AND (INHERITABLE OR INHERITABLY OR EPIGENETIC OR EPIGENETICALLY)
S4	0	S2 AND (F1 AND F2)
S5	0	S2 AND (PROGENIES OR (GRAND (W) PROGENIES))
S6	0	S2 AND (INHERITABLE (W) BEHAVIORAL (W) CHANGE)
S7	0	S2 AND (LAMARCKISM OR LAMARCKIAN)
S8	2	S2 AND (NEGATIVE (W) GEOTAXIS)
S9	1	RD (unique items)
S10	1	RD (unique items)
S11	46	RD S2 (unique items)
S12	63	S2 NOT PY>2003
S13	38	RD (unique items)

?

COST
24mar05 10:30:09 User259876 Session D729.2
$2.63 0.821 DialUnits File155
$3.57 17 Type(s) in Format 3
$3.57 17 Types
$6.20 Estimated cost File155
$5.62 0.977 DialUnits File5
$44.00 22 Type(s) in Format 3
$44.00 22 Types
$49.62 Estimated cost File5
$17.48 1.644 DialUnits File73
$17.48 Estimated cost File73
OneSearch, 3 files, 3.442 DialUnits FileOS
$2.13 INTERNET
$75.43 Estimated cost this search
$76.32 Estimated total session cost 3.669 DialUnits
?
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